GETSKIN, L. S.

PETROV, I.K.; GETSKIN, L.S.

Automatic control of the amount of air introduced into a shaft furnace. Vest. AN Kazakh. SSR. 11 no.6:71-74 Je '54.(MIRA 7:8)
(Smelting furnaces)

GETSKIN, L.S.

GETSKIN, L.S.; PONOMAREV, V.D.

Behaviour of arsenic during the oxidation of iron by atmospheric oxygen in the hydrometallurgy of zinc. Tsvet. met. 27 no.1:42-49 Ja-F '54. (MLRA 10:9)

(Arsenic) (Iron) (Oxidation)

GENTSKIN, L.S.; PETROV, I.K.; SAFRONOV, A.I.

Automatic control in the production of zinc. TSvet.met. 27 no.4:16-19 Jl-Ag '54. (MIRA 10:10)
(Automatic control) (Zinc--Metallurgy)

Getskin, L.S.

137-58-5-9354

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 79 (USSR)

AUTHOR: Getskin, L.S.

TITLE: Atmospheric Oxygen Removes Iron, Arsenic, and Antimony From Solutions From Which Sublimates and Dust Have Been Leached out (Ochistka rastvorov posle vyshchelachivaniya vozgonov i pyley ot zheleza, mysh'yaka i sur'my s primeneniyem kisloroda vozdukha)

PERIODICAL: Tr. soveshchaniya po metallurgii tsinka. 1954. Moscow, Metallurgizdat, 1956, pp 144-150

ABSTRACT: Laboratory and shop experiments were carried out in order to test a method in which Mn ore is replaced by atmospheric oxygen in the process of purification of Zn solutions. It was established that the solution may be purified by this method until it contains 30 mg/ℓ of Fe, 0.1 mg/ℓ of As, and 0.2 mg/ℓ of Sb. The following conditions are essential for the process: Blowing of the solution with dispersed air at a constant speed; maintaining the temperature of the solution at 65-70°C and its pH at a value ≥ 5 (this is achieved by adding milk of lime to the solution); ≥ 0.1 g/ℓ of Cu must be present in the solution. It

Card 1/2

Atmospheric Oxygen Removes Iron, (cont.)

is pointed out that the employment of atmospheric O_2 for purposes of oxidation of impurities enhances the processes of the settling and filtering of the pulp.

L. P.

1. Zinc solutions--Purification 2. Oxygen--Applications

Card 2/2

137-58-4-6849

Translation from Referativnyy zhurnal, Metallurgiya 1958 Nr 4 p 76 (USSR)

AUTHORS Getskin L.S., Yurenko, V.M., Urubkova, E.I., Margulis Ye.V.

TITLE Effect of Increased Rate of Electrolyte Circulation on Zinc Electrolysis Indices (Vliyaniye uvelichennoy skorosti tsirkulyatsii elektrolita na pokazateli elektroliza tsinka)

PERIODICAL Sb. tr. Vses. n.-i. in-ta tsvetn. met. 1956 Nr 1 pp 99-111

ABSTRACT Laboratory and industrial tests have shown that with a standard industrial electrolyte composition and with D 500 amp/m^2 a 5-fold increase in the rate of circulation of the electrolyte over the usual makes it possible to increase the Zn current efficiency by 2-2.5% and to reduce the power consumption by 1% due to reduction of bath voltage.

G.S.

1. Electroplating--Processes 2. Electrolysis--Applications

Card 1/1

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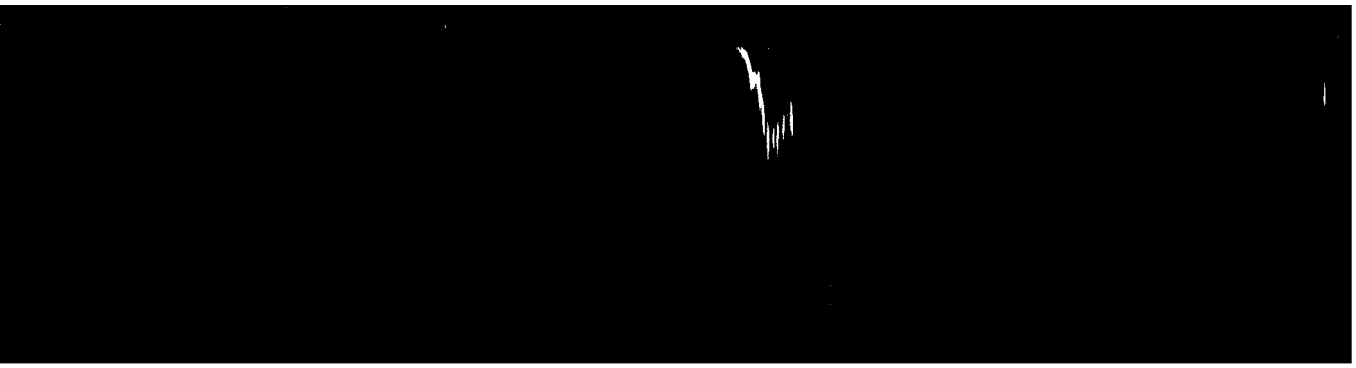

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GETSEU, V.V.

Oil and gas field waters in Dahestan and their practical utilization. Trudy Geol.inst.Dag.fil. AN SSSR 2:57-80 '60. (MIRA 15:12)

(Daghestan--Oil field brines)

GETSKU, V.V.; KARYAGINA, A.M.

Hydrochemical characteristics of the Chirkey hydrosulfide springs. Trudy Geol.inst.Dag.fil. AN SSSR 2:260-266 '60. (MIRA 15:12)
(Buynaksk District—Mineral waters—Composition)

GETSEUL, V.V.

Some urgent problems in the organization of therapeutic and prophylactic care for children in rural areas of the Moldavian S.S.R. Zdravookhranenie 3 no.3:3-7 My-Je '60. (MIRA 13:7)

1. Iz kafedry organizatsii zdravookhraneniya (zav. - dotsent M.Ya. Gekhtman) Kishinevskogo meditsinskogo instituta.
(MOLDAVIA--CHILDREN--CARE AND HYGIENE)

GETSEUL, V.V.

Blood flow rate in children with rheumatism. Zdravookhranenie 5 no.4:23-29 Jl-Ag '62. (MIRA 15:9)

1. Iz 1-go otdeleniya starshego detskogo vozrasta (zav. - deystvitel'nyy chlen AMN SSSR prof. O.D.Sokolova-Ponomareva) Instituta pediatrii AMN SSSR (direktor - dotsent M.Ya.Studenikin).
(RHEUMATIC HEART DISEASE) (BLOOD, CIRCULATION, DISORDERS OF)

GETSEUL, V.V.

Some indices of external respiration in rheumatism in children. Zdravookhranenie 6 no.3:18-24 My-Je'63 (MIRA 16:11)

1. Iz kliniki starshego detskogo vozrasta (zav.-deystvitel'-nyy chlen AMN SSSR prof. O.D.Sokolova- Ponomareva) Instituta pediatrii AMN SSSR (dir.-dotsent M.Ya. Studenikin).

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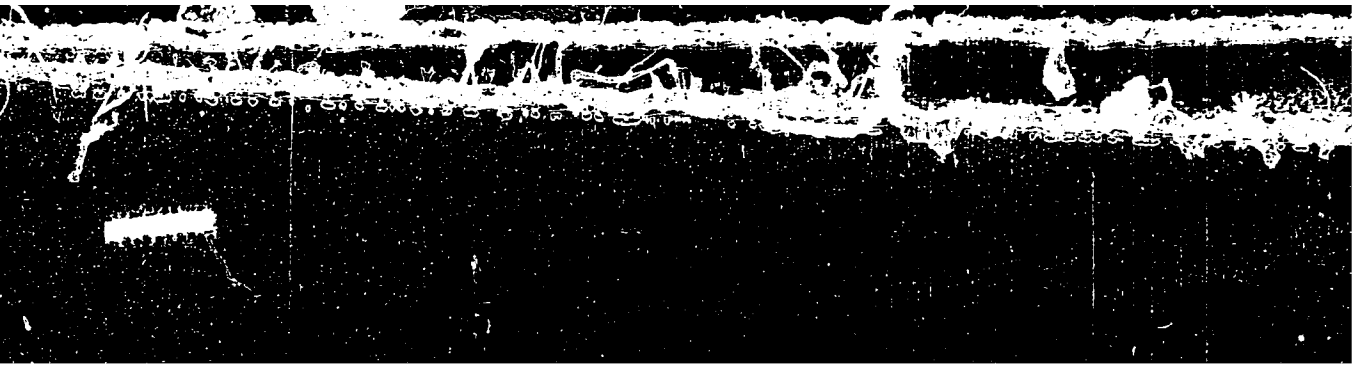

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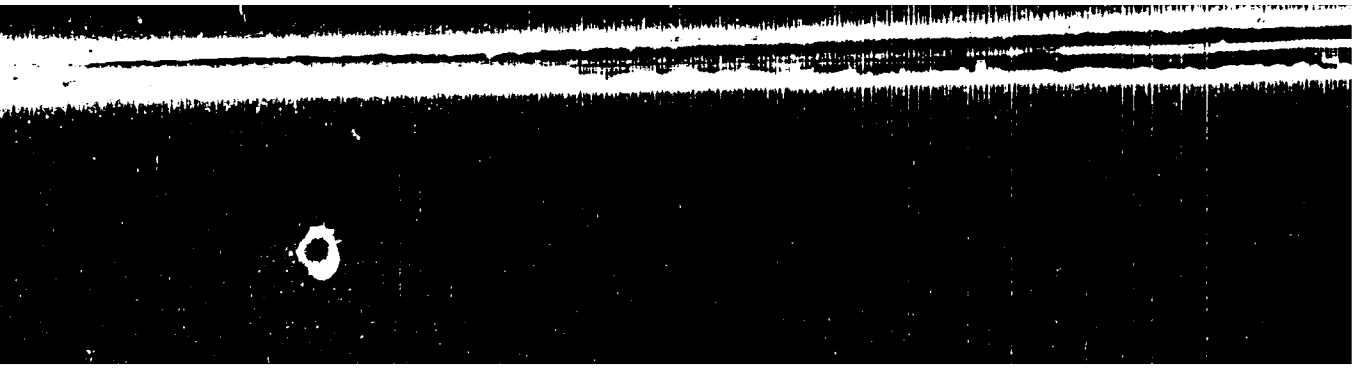

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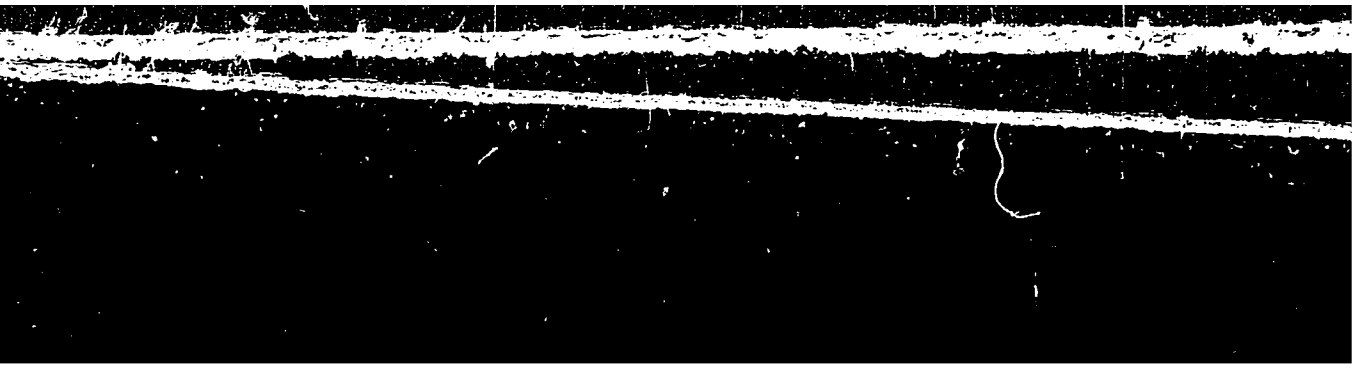

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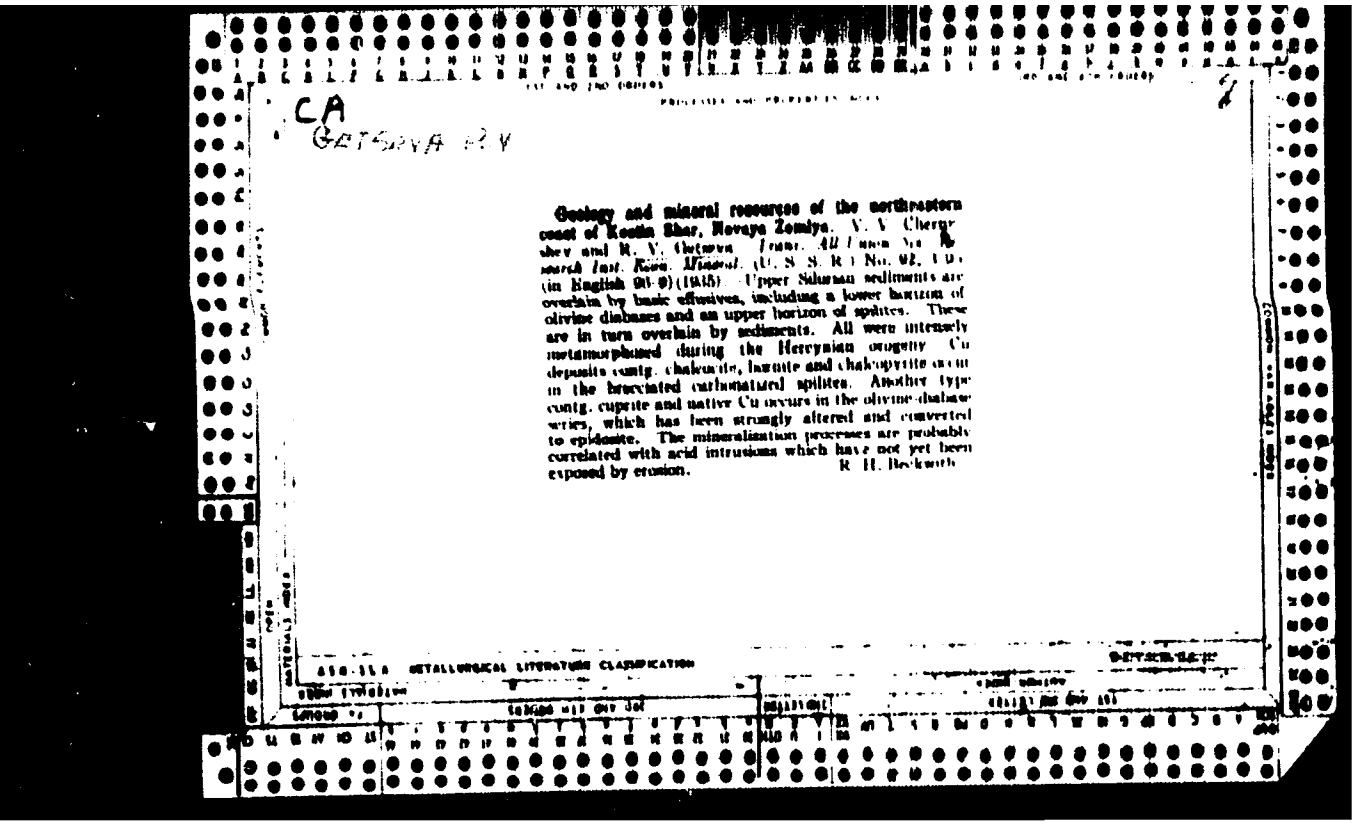

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Geology and mineral resources of the northeastern coast of Kostin Shar, Novaya Zemlya. V. V. Cherny shev and R. V. Chetyrov. *Trans. All Union Sci. Research Inst. Geol. Mineral.* (U. S. S. R.) No. 92, 1-95 (in English 90-9) (1935). Upper Silurian sediments are overlain by basic effusives, including a lower horizon of olivine diabases and an upper horizon of spilites. These are in turn overlain by sediments. All were intensely metamorphosed during the Hercynian orogeny. Cu deposits contg. chalcocite, bornite and chalcopyrite occur in the brecciated carbonatized spilites. Another type contg. cuprite and native Cu occurs in the olivine-diabase series, which has been strongly altered and converted to epidosite. The mineralization processes are probably correlated with acid intrusions which have not yet been exposed by erosion. R. H. Beckwith

GETSEVA, R.V.

Ageological-petrographical scheme of the Takob River basin Lenigrad, Kartmasterskoi TSNIGRI, 1937. 9 maps

GETSEVA, NADEZHDA V.[illegible]DIKTOVNA

Rukovodstvo Po Opredeleniyu Uranovykh Mineralov (Handbook on the Identification of Uranium Minerals, by) R. V. Getseva I K. T. Savel'yeva. Moskva, Gosgeoltekhizdat, 1956.
259 P. Diagrs., Tables.

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USSR/Cosmochemistry - Geochemistry. Hydrochemistry. D

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 711

Author: Getseva, R. V.

Institution: None

Title: Hydrouraninite and Urgite, Two New Minerals of the Hydrated Uranium Oxides Group

Original Periodical: Atom. energiya, 1956, No 3, 135-136

Abstract: Two new minerals discovered in 1947 in the oxidation zone of a nameless hydrothermal uranium ore deposit in the USSR are described. Both minerals appear to be members of the same series of minerals formed by a successive oxidation and hydration of uraninite. Hydrouraninite (I) of the composition $UO_2 \cdot kUO_3 \cdot nH_2O$, where k = 2.3-5 and n = 3.9-9, is found in dense masses and drusy sinter deposits in the deeper regions of the oxidation zone. Urgite (II) of the composition $UO_3 \cdot nH_2O$, where n = 2.3-3.1, is formed in the middle region of the profile of the oxidation zone, where it occurs in dense amorphous

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GEETSEVA, R.V.

PHASE I BOOK EXPLOITATION 982

Voprosy geologii urana (Problems in the Geology of Uranium) 159 p. (Series: Atomnaya energiya. Prilozheniye, 1957, no. 6) 7,000 copies printed.

Resp. Ed.: Konstantinov, M.M.; Tech. Ed.: Usachev, G.L.

PURPOSE: This book is of interest to uranium exploration specialists and geologists studying associated minerals.

COVERAGE: The present collection of 12 articles by different authors discusses the genesis of uranium deposits, uranium mineralogy, and methods of research and analysis used in evaluating ores. Several new minerals are described and a review of aerogeophysical exploitation in the United States, Canada and Australia is given. The articles are accompanied by diagrams, tables, photographs, and bibliographic references.

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GETSEVA, R.V.

Characteristics of the sedimentary-metamorphogenetic type of uranium mineralization. Atom. energ. Supplement no.6:20-36 '57. (MIRA 11:7)
(Uranium ores)

GETSEVICH, E.G.

PHASE I BOOK EXPLOITATION SOV/4580

Minsk. Belorusskiy politekhnicheskiy institut

Detali mashin (Machine Parts) Minsk, Red.-izd. otdel BPI imeni I.V. Stalina, 1959. 69 p. (Series: Its: Sbornik nauchnykh trudov, vyp. 75) 1,500 copies printed.

Sponsoring Agencies: Ministerstvo vysshego, srednego spetsial'nogo i professional'nogo obrazovaniya BSSR; Belorusskiy politekhnicheskiy institut imeni I.V. Stalina.

Editorial Board: V.N. Tryyger (Resp. Ed.), Doctor of Technical Sciences, Professor; V.I. Betrimovich, Candidate of Technical Sciences, Docent; L.M. Rubenchik, Candidate of Technical Sciences, Docent, and A.I. Zheltonoga, Candidate of Technical Sciences, Docent; Resp. Ed. for this vol.: A.A. Mukhin, Engineer; Ed.: N. Kapranova; Tech. Ed.: Ye. Konchits.

PURPOSE: This collection of articles is intended for technical personnel and scientific workers.

COVERAGE: This is the 75th issue of a series published by the Belorussian Polytechnic Institute imeni I.V. Stalin. The collection contains eleven articles, ten of which are devoted to studies and work related to the life of certain machines parts. The remaining article deals with the power of the lighting installation in a cinematographic apparatus. No personalities are mentioned. References accompany most of the articles. There are 32 references: 30 Soviets, 1 English and 1 German. A short appendix is also included.

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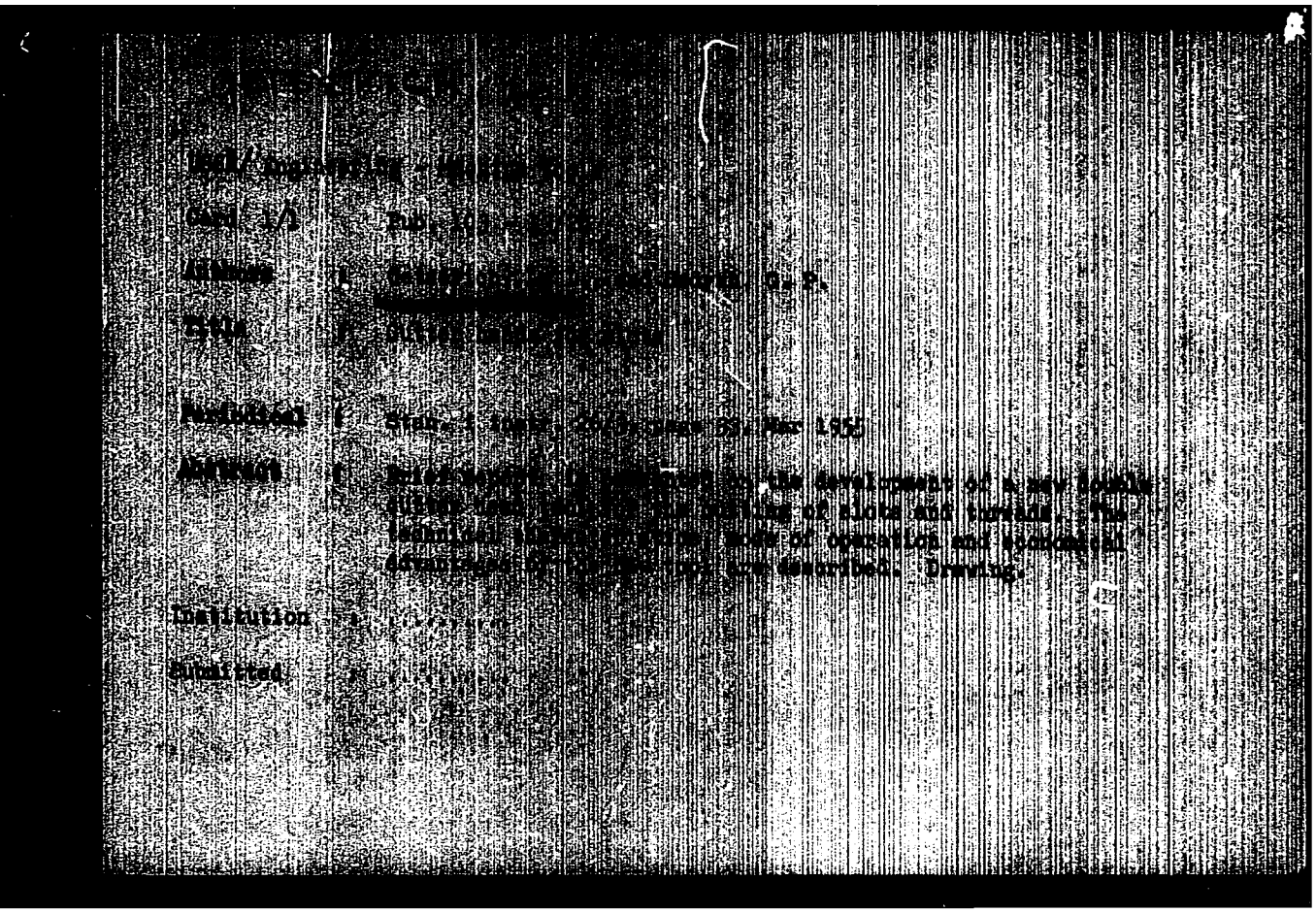

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Automatic control of the amount of air introduced into a shaft furnace. Vest. AN Kazakh. SSR. 11 no.6:71-74 Je '54.(MLRA 7:8)
(Smelting furnaces)

GETSKIN, L.S.

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Behaviour of arsenic during the oxidation of iron by atmospheric oxygen in the hydrometallurgy of zinc. TSvet. met. 27 no.1:42-49 Ja-F '54. (MLRA 10:9)

(Arsenic) (Iron) (Oxidation)

GETSKIN, L.S.; PETROV, I.K.; SAFRONOV, A.I.

Automatic control in the production of zinc. TSvet.met. 27 no.4:16-19 Jl-Ag '54. (MIRA 10:10)
(Automatic control) (Zinc--Metallurgy)

Getskin, L.S.

137-58-5-9354

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AUTHOR: Getskin, L.S.

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PERIODICAL: Tr. soveshchaniya po metallurgii tsinka 1954. Moscow, Metallurgizdat, 1956, pp 144-150

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137-58-5-9354

Atmospheric Oxygen Removes Iron, (cont.)

is pointed out that the employment of atmospheric O_2 for purposes of oxidation of impurities enhances the processes of the settling and filtering of the pulp.

L. P.

1. Zinc solutions--Purification 2. Oxygen--Applications

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137-58-4-6849

Translation from Referativnyy zhurnal, Metallurgiya 1958 Nr 4 p 76 (USSR)

AUTHORS Getskin L.S., Yurenko, V.M., Urubkova, E.I., Margulis Ye.V.

TITLE Effect of Increased Rate of Electrolyte Circulation on Zinc Electrolysis Indices (Vliyaniye uvelichennoy skorosti tsirkulyatsii elektrolita na pokazateli elektroliza tsinka)

PERIODICAL Sb. tr. Vses. n.-i. in-ta tsvetn. met., 1956 Nr 1 pp 99-111

ABSTRACT Laboratory and industrial tests have shown that with a standard industrial electrolyte composition and with D 500 amp/m^2 a 5-fold increase in the rate of circulation of the electrolyte over the usual makes it possible to increase the Zn current efficiency by 2-2.5% and to reduce the power consumption by 1% due to reduction of bath voltage.

G.S.

1. Electroplating--Processes 2. Electrolysis--Applications

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137-58-5-9354

Atmospheric Oxygen Removes Iron, (cont.)

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L. P.

Zinc solutions--Purification 2. Oxygen--Application

Card 2/2

137-58-4-6849

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AUTHORS Getskin L.S., Yurenko V.M., Urubkova E.I., Margulis Ye.V.

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G.S.

1. Electroplating--Processes 2. Electrolytic Applications

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APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000514930012-6"

137-58-5-9354

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L. P.

Zinc solutions--Purification 2. Oxygen--Applications

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137-58-4-6849

Translation from Referativnyy zhurnal Metallurgiya 1958 Nr 4 p 76 (USSR)

AUTHORS Getskin L.S., Yurenko V.M., Urubkova E.I., Margulis Ye.V.

TITLE Effect of Increased Rate of Electrolyte Circulation on Zinc Electrolysis Indices (Vliyaniye uvelichennoy skorosti tsirkulyatsii elektrolita na pokazateli elektroliza tsinka)

PERIODICAL Sb. tr. Vses. n.-i. in-ta tsvetn. met. 1956 Nr 1 pp 99-111

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G.S.

1. Electroplating--Processes 2. Electrolytic Apparatus

Card 1/1

137-58-4-6848

Translation from Referativnyy zhurnal. Metallurgiya 1958, Nr 4 p 76 (USSR)

AUTHORS Khristoforov, B.S., Getskin L.S.

TITLE On Eliminating Fluorine From Zinc Industry Solutions (Ob ochistke rastvorov tsinkovogo proizvodstva ot ftora)

PERIODICAL Sb. tr. Vses. n.-i. in-ta tsvetn. met. 1956 Nr 1 pp 112-118

ABSTRACT The possibility of eliminating F_2 from Zn solutions by means of various Ca salts was verified. Ca compounds eliminate F_2 from industrial solutions containing 120 g Zn per liter and Mn up to 20 g/ℓ until the F_2 content in the solution is 120-130 mg/ℓ, while with Mn contents of up to 5 g/ℓ the F_2 content in the solution can be reduced to appx 70 mg/ℓ. After sulfating F_2-bearing solutions by Pb dusts at 300°C, the F_2 content diminishes to 0.003-0.006%, and in solutions after leaching of the sulfated product the F_2 content is 3-7 mg/ℓ.

G S

1. Zinc--Solutions 2. Fluorine--Reduction--Methods

Card 1/1

OEITSKIN, L.S.; KERSHANSKIY, I.I.

Efficiency of cup-shaped granulators in rolling batches and powdered ores. TSvet.met. 29 no.5:23-30 My '56. (MLRA 9:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh metallov.

(Ore dressing)

GETSKIN, L. S.

AUTHOR: Getskin, L. S. 136-3-5/25

TITLE: Investigations in the Field of the Production of Zinc and Accompanying Elements in the German Democratic Republic. (Issledovaniya v oblasti proizvodstva tsinka i soputstvuyushchikh yemu elementov v Germanskoy Demokraticheskoy Respublike).

PERIODICAL: Tsvetnyye Metally, 1957, No.3, pp.22-31 (USSR)

ABSTRACT: This article is based on material presented at the Leipzig meeting of the Society of German Engineers (October, 1956) and also on information obtained about work at the Freiberg Non-Ferrous Research Institute, the experimental installation at Muldenhutte, at the Beihutte Works in Hedstedt and during a visit to the "Feinzink" Works under construction in Freiberg. Tables are given showing the composition of the Freiberg flotational zinc concentrates; the composition of dust produced at two works smelting Mansfeld ores; the solubility of zinc from the roasted product at various acid concentrations; the granulometric composition of the

AUTHORS: Getskin, L.S., Batyuk, A.G. and Tsyb, P.P. 136-7-5/22

TITLE: Granulation of pulverulent materials with strong sulphuric acid. (Granulyatsiya pylevidnykh materialov s krepkoy sernoy kislotoy).

PERIODICAL: "Tsvetnyye Metally" 1957, No.7, pp.23-25 (USSR).

ABSTRACT: The methods of sulphating polymetallic pulverulent material proposed by most investigators depend on the use of dilute sulphuric acid, which leads to practical difficulties. In the present article, a method developed at the VNIItsvetmet is described in which the pulverulent materials are subjected to granulation with concentrated sulphuric acid added separately into a rotating pan granulator. The chemical processes taking place with various materials are considered, special attention being given to volatilization of chlorine and fluorine. The material presented includes that obtained in promising experiments with an electrically-heated granulator. The methods developed and tested are suitable for use in lead, zinc, copper-smelting and other works for the extraction of non-ferrous and rare metals from dusts and enable the sulphating process to be applied rapidly in industry.

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GeTsKiN, L. S.

137-58-5-9318

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 75 (USSR)

AUTHORS: Tsyb, P.P., Batyuk, A.R., Getskin, L.S.

TITLE On a Treatment of Lead Cakes Accompanied by Extraction of Rare Metals (O metode pererabotki svintsovykh kekov s izvlecheniyem redkikh metallov)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 16, pp 22-24

ABSTRACT: The VNIItsvetmet has performed work on methods of treating Pb-cakes of the Ust'-Kamenogorsk Kombinat by means of granulation with strong H_2SO_4, followed by sulfatization of the grains by the FluoSolids process, as well as by acidic leaching. The composition of the initial cakes (in %) is as follows: humidity 24.9; total Zn content 10.46; total Pb content 33.59; Sb 0.06; Cl_2 0.26; F_2 0.01; Ga 0.001; In 0.0023; Tl 0.007; Ge 0.0026; Cu 1.90; Cd 0.19; Fe 3.62; As 1.17; Se 0.05; and Te 0.025. The cakes were first dried until the moisture content amounted to 4-6% and ground down to a 1-mm particle size. They were then granulated with H_2SO_4, the amount of the latter being equivalent to 110% of the theoretical amount required for the sulfatization of Pb, Zn, Cu, Cd, and Fe. The grains were subjected

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On a Treatment of Lead Cakes (cont.)

to sulfatization in a FluoSolids furnace for a period of 60 minutes at a temperature of 300°C. Expressed in %, the degree of sulfatization amounted to the following. Pb 99.5; Zn 71.6-83.0; Cd 64.7-67.7, Fe 47.3; Cu 100. In the course of the sulfatization process the following elements were sublimated 15% of Ge, 20% of As, and 25% of Se. After sulfatization the granules were leached with water. The solid-liquid ratio in the leaching process is equal to 1:3. After leaching, the solutions contain 2.8-3 g/ℓ As, 0.1-0.15 g/ℓ Sb, and and 20 g/ℓ Fe, the degree of extraction of As Sb, and Fe being respectively, 85-90%, ~50%, and 30%.

G.S.

1. Lead ores--Processing 2. Rare earth elements--Separation 3. Sulfuric acid --Applications

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AUTHORS: Getskin, L.S., Batyuk, A.G., Tsyb, P.P., Gorokhvatskaya, R.I., Savrayev, V.F., Zinov'yev, V.P., Fel'dman, V.G., Bratchik, A.V. and Polulyakh, V.P.

TITLE: Mastering the Process of Sulphatizing Lead Dusts

PERIODICAL: Tsvetnyye metally, 1959, Nr 10, pp 35-42 (USSR)

ABSTRACT: The method of sulphatizing poly-metallic ores and concentrates was first developed in the Soviet Union by Professor A.Ye.Makovetskiy in 1923. Since then, a great deal of investigational work has been done in this connection. One variant of this method, so-called Makovetskiy-Gintsvetmet process, consisting of mixing the material with diluted (60%) sulphuric acid and treating the pulp in a cylindrical sulphatizator at 200°C, was put to test at a pilot plant (designed to treat 3 t of sulphide concentrate per day) at Ordzhonikidze. However, even after three years' operation, no means have been found to overcome serious difficulties associated with the formation of crust in the sulphatizator and with rapid corrosion of the equipment and of the gas system, due to the action of hot gases containing water and acid vapours. Work on this problem was resumed at VNIITsvetmet in 1955

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Mastering the Process of Sulphatizing Lead Dusts

and, as a result, a modified method was developed which, by now, has also been tested on a semi-industrial scale. The main difference between the new and the original method is the application of concentrated sulphuric acid which could not be used previously, owing to the fact that cementation of the dense pulp took place in the equipment used in the old process, ie in the mixer, re-pulper and sulphatizator. This difficulty was overcome by nodulizing the powder materials mixed with concentrated sulphuric acid in a pan granulator. Owing to the exothermic nature of the reactions taking place during the nodulizing process, the nodule temperature rises to 200°C or even higher and this ensures rapid distillation of chlorine and fluorine and accelerates sulphatization of the pulp components. The subsequent heating of the granules to 350°C (necessary to distill off arsenic and to complete the sulphatizing reactions) is carried out in a reactor, using the fluidized bed principle (Ref 1). The preliminary investigation was carried out in a large laboratory plant in which dusts from various lead and copper smelting plants were treated on the basis of the

Mastering the Process of Sulphatizing Lead Dusts

results of this work, the staff of the Ust'-Kamenogorskiy Lead-Tin Combine in cooperation with VNIITsvetmet, designed and constructed a large pilot plant capable of treating 10 t of lead-bearing dusts per day. Its main components, ie the granulator shown diagrammatically in Fig 1 and the fluidized bed reactor illustrated in Fig 2, were constructed in the Combine workshops. The granulator, driven by a 14 kW electric motor, is equipped with a pan 1500 mm diameter and 250 mm deep, the axis of which is inclined to the horizontal at an angle of 30 to 60° and which rotates at the rate of 8 to 14 rev/min. Gases evolved during the process are removed through an exhaust hood. The application of concentrated sulphuric acid made it possible to use mild steel as the constructional material of the granulator, the inlet and outlet pipes and the ventilating system. The reactor shell (Fig 2) is also made of steel, lined inside with a single layer of a refractory brick; the active area of the hearth is 0.75 m^2, the height of the fluidized bed, 105 cm, the total height of the reactor being 3.5 m. The final product obtained in the fluidized bed reactor is discharged into a

Mastering the Process of Sulphatizing Lead Dusts

stainless steel tank, from which it is pumped into mechanical agitators, where the sulphate product is leached out. The following are the main operations carried out in the hydro-metallurgical section: leaching out of the sulphate product, settling and washing the lead cake, precipitation of raw metals, removal of arsenic and iron from the solutions and extraction of cadmium. The lead dusts treated in the experimental pilot plant contained (%): 49.3 Pb, 16.3 Zn, 2.5 Cd, 0.5 Cu, 1.0 Fe, 5.3 As, 1.0 Cl and 0.2 F. The consumption of concentrated sulphuric acid in nodulizing this product varied between 55 and 62% of the weight of the dust which corresponded to 110% of the theoretically required quantity. (The authors point out here that if sulphuric acid of the concentration less than 92% is used, the nodulizing process is adversely affected, granules of low mechanical strengths are obtained, the quantity of distilled off chlorine, fluorine and arsenic is reduced and the output of the granulator is reduced.) With the granulator inclined at 55° and operating at 8.3 rev/min, 10 to 15 t of the dust was treated per day, the obtained

Mastering the Process of Sulphatizing Lead Dusts

product containing 80% of the -5 mm fraction. The proportion of dust carried away by the exhaust gases was comparatively small and amounted to 1% only; the quantity of gases evolved during the process was also small, owing to the low chlorine, fluorine and arsenic contents in the dust; the H_2S content in the gases varied between zero and 9 mg/m^3. The optimum temperature for sulphatizing the granules in the fluidized bed reactor was 350°C. The capacity of the reactor was 12 to 14 t/m^2/24 hr, the air consumption being 3000 m^3/hr. The granules remained in the reactor for more than two hours; however, it was found that the time necessary for the completion of the sulphatizing reaction and for the removal of 90% of arsenic, is approximately 45 min; consequently, it can be assumed that the productivity of the reactor could be increased, whereby its specific air consumption would be reduced. The solutions (including those obtained during washing and filtering the lead cake) resultant from the water leach of the sulphate product, contained (g/l): 37.9 Zn, 6.5 Cd; the washed lead cake contained (%): 0.52 Zn, 0.16 Cd, 64.3 Pb;

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65689
SOV/136-59-10-6/18

Mastering the Process of Sulphatizing Lead Dusts

97% Zn and 95% Cd present in the dust was recovered in the solution; the recovery of Zn, Cd and Pb in the lead cake was 2.4, 4.8 and 98% respectively; the recovery of raw metals amounted to 74 to 93%; 80 to 90% arsenic was distilled off during the sulphatizing treatment; 80 to 85% chlorine and fluorine and 60 to 75% selenium was distilled off during both nodulizing and sulphatizing processes. After describing the dust-collecting process and various controlling equipment, the authors state their conclusions. (1) Difficulties experienced in the application of the sulphatizing process on an industrial scale have been overcome by using concentrated sulphuric acid and by nodulizing the pulp in a rotary pan granulator. (2) No signs of corrosion of the granulator, made of mild steel, have been observed during the test period; both the granulator and the fluidized bed reactor have been working continuously without any stoppages and the working conditions have been satisfactory. (3) The process, as outlined in the present paper, has been found to be very efficient regarding the degree of both the recovery of rare and non-ferrous metals present in the dust and the

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Mastering the Process of Sulphatizing Lead Dusts

removal of the volatile components. (4) A necessary condition for ensuring efficient purification of the gases leaving the fluidized bed reactor is lowering the temperature of the gases to 25 to 30°C and the application of a wet system of dust collection. To comply with the sanitary regulations regarding the arsenic content in the exhaust gases, a supplementary cleaning operation in a wet electro-filter is necessary. (5) The application of the sulphatizing process for treating lead dust provides a convenient means of utilizing this complex material and can be recommended for adoption in all the lead plants in the Soviet Union. There are 2 figures, 1 table and 1 Soviet reference.

ASSOCIATIONS: VNIITsvetmet
Ust'-Kamenogorskiy svintsovo-tsinkovyy kombinat
(Ust'-Kamenogorskiy Lead-Zinc Combine)

18 3100

25425

S/137/61/000/006/019/092
A006/A101

AUTHORS: Tsyb, P.P., Getskin, L.S., Vartanyan, A.M., Fel'dman, V.G., Anosova, T.V. Akylbekov, A.A., Levina, A.A., Chepick, M.N.

TITLE: Extracting indium from lead plant dusts

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1961, 19, abstract 6G166 ("Sb. nauchn. tr. Vses. n.-i. gornometallurg. in-t tsvetn. met", 1960, no. 6, 377 - 388)

TEXT: The authors describe a technological system of In extraction from dusts of lead production, using the method of dust sulfatizing at the beginning of the process. Extraction of In into 1-st class metal from the content in the initial dust (In 0.003 - 0.006%) is about 60%.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 1/1

ZEITSKIN, L.S.; KERSHANSKIY, I.I.

Processing copper cakes from the zinc industry by means of electric smelting. TSvet.met. 33 no.1:26-31 Ja '60.
(MIRA 13:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh metallov.
(Copper--Electrometallurgy)

S/137/62/000/003/054/191
A006/A101

AUTHORS: Tsyb, P. P., Getskin, L. S., Batyuk, A. G.

TITLE: Processing of dusts and sublimates of non-ferrous metallurgy plants with complex extraction of non-ferrous and rare metals

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 29 - 30, abstract 3G198 (V sb. "Issled. po obogashcheniyu i tekhnol. polezn. iskopayemykh", Moscow, Gosgeoltekhizdat, 1961, 123 - 131)

TEXT: The new method of processing dusts and sublimates from non-ferrous metallurgy plants consists in the granulation of dust materials with strong H_2SO_4 in a rotating cup-shaped granulator. The dust and the acid are separately supplied to the granulator where they are thoroughly mixed; as a result granules of up to 5 mm in diameter are being formed. The granules obtained are heat-treated at 300 - 350°C in a fluidized bed furnace. During the granulation of dust and sublimates with 110% strong H_2SO_4, the mass is heated to 150 - 200°C on account of the exothermal reaction heat. Pb, Cd and Zn then transform into sulfate forms by 96 - 98%. F and Cl are sublimated to 70 - 80 and 60 - 30% respectively, and As volatilization is 10 - 15%. At this processing method, In and Ti transform into sulfate

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S/137/62/000/003/054/191
A006/A101

Processing of dusts and...

forms and remain practically completely in the sulfate products. Te also remains in the sulfate product. Se is sublimated (by 50 - 90%) and is practically fully collected. The Se content in the sublimates is 2 - 3%. After granulation of the sublimates with H_2SO_4, the granules are leached out with waste Zn-electrolyte. In and Ge remain then completely in the Pb-cake. At an additional acid leaching, In and Ge are extracted and Zn, Cd and As are additionally extracted. Furthermore, the processing of solutions for the purpose of extracting non-ferrous and rare metals is made by the same scheme as the processing of solutions obtained after leaching out the sulfating products.

O. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

S/137/62/000/003/049/191
A006/A101

AUTHORS: Getskin, L. S., Yatsuk, V. V.

TITLE: The rate of selenium dioxide formation during the interaction of elementary selenium with strong sulfuric acid

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 25, abstract 3G162 ("Izv. AN KazSSR. Ser. metallurgii, obogashcheniya i ogneuporov", 1961, no. 2, 39 - 42. Kaz. summary)

TEXT: The following method was used for the experiment. A given amount of elementary Se was mixed with an amount of H_2SO_4 calculated from the reaction $Se + 2H_2SO_4 \rightarrow SeO_2 + 2SO_2 + 2H_2O$; the mixture was roasted in a tubular furnace. The experiments were carried out at 300, 350 and 400°C. At these temperatures, SeO_2 formed by the reaction, was almost completely driven-off at the end of the experiment. On the basis of experimental data it was established that the reaction rate of SeO_2 formation increased considerably with higher temperature. The magnitude of apparent energy of activation is equal to 5910 cal/mole; this proves that the reaction of SeO_2 formation proceeds in the diffusion range.

[Abstracter's note: Complete translation] G. Svodtseva

Card 1/1

S/081/62/000/008/030/057
B160/B101

AUTHORS: Getskin, L. S., Leksin, V. N.

TITLE: The problem of the behavior of rare metals in sulfuric acid manufacture and the possibility of extracting them

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 8, 1962, 354, abstract 8K59 (Metallurg. i khim. prom-st' Kazakhstana. Nauchno-tekhn. sb., no. 3(13), 1961, 123 - 125)

TEXT: During the roasting of pyrite concentrates a certain amount of Se, Te and Tl is driven off into the gas phase and trapped in the wet electrostatic precipitators at the fine gas-scrubbing stage. Particular attention is paid to more complete trapping of the Se and Te and their concentration in the sulfuric acid slimes, since a processing technology for removing these metals from the latter has been adopted in industry. 10 references. [Abstracter's note: Complete translation.]

Card 1/1

GETSKIN, L.S.; YATSUK, V.V.; PONOMAREV, V.D.

Thermodynamic analysis of the interaction of heavy nonferrous metal sulfides with sulfuric acid. Izv. vys. ucheb. zav.; tsvet. met. 4 no.4:53-56 '61. (MIRA 14:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh metallov i Kazakhskiy politekhnicheskiy institut. Rekomendovana kafedroy metallurgii legkikh i redkikh metallov Kazakhskogo politekhnicheskogo instituta.
(Sulfides--Metallurgy) (Thermal analysis)

S/137/62/000/007/011/072
A052/A101

AUTHORS: Cherednik, I. M., Getskin, L. S.

TITLE: A study of conditions of raising the separation of selenium in the process of agglomeration of lead charges

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1962, 26, abstract 7G180 ("Metallurg. i khim. prom-st' Kazakhstana. Nauchno-tekhn. sb.", no. 6 (16), 1961, 15 - 21)

TEXT: Laboratory experiments were carried out on determining the conditions of maximum Se separation in the process of Pb charge agglomeration without impairing the quality of agglomerate and other characteristics of the agglomeration process. The experiments were performed on an installation which provided for the possibility of its operation both with the suction of air from above and with blasting from below. When agglomerating granulated charge with circulation and fluxes from -5 to +2 mm large, the optimum air consumption both from the viewpoint of the quality of agglomerate and of Se separation is 2,200 - 2,400 $m^3/m^2 \cdot hour$. An addition of Na and Ca chlorides to the charge raises the degree of Se separa-

A study of conditions of...

tion but impairs other characteristics of the process. When blasting is applied, air being enriched with 21 - 25% O_2, the degree of Se separation increases to 50% (instead of 15% at air blasting).

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

VARTANYAN, A.M.; SAVRAYEV, V.P.; GETSKIN, L.S.; POLULYAKH, V.I.

Recovery of selenium and arsenic from gases formed in the sulfatization of lead flue dusts. TSvet. met. 34 no. 4:21-25 Ap '61. (MIRA 14:4)

(Fly ash) (Nonferrous metals—Metallurgy)

24h29

S/080/61/034/007/003/016
D223/D305

18 3100

AUTHORS: Getskin, L.S., Remizov, Yu.S., and Margulis, Ye.V.

TITLE: The behavior of lead selenide on oxidation and hot sulphation with sulphuric acid

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 7, 1961, 1430 - 1437

TEXT: The principal form of the selenium compound in the products resulting from the metallurgical processing of ores is lead selenide. The initial materials for preparing lead selenide were finely dispersed powder of metallic selenium type S-0 and technically pure lead. The stoichiometric quantities of each were mixed in the ratio of the lead selenide PbSe. The chemical analysis gave 72.02% of lead and 27.60 % of selenium which is close to theoretical values for PbSe (Pb = 72.4 %, Se = 27.6 %). X-ray analysis by the Debye-Scherer method revealed the corresponding crystalline structure (cubical lattice with a = 6.11 Å) and no other phase was de-

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The behavior of lead ...

tected. The thermal analysis gave the melting point as 1065°C. On the basis of the above analysis the material was found suitable for experimental work. Oxidation roasting was done in a porcelain boat in a tubular furnace through which air passed at the rate of 50 mls/min. The furnace temperature was controlled by an electronic potentiometer with an accuracy of ± 5°C. The sulphation roasting was done under the same conditions as oxidation but with the addition of sulphuric acid. The charge per experiment was 2 g and the roasting time 30 min. During the roasting of lead selenide in air and over a temperature interval 300-600°C, a gradual increase in weight was observed, but no selenium was detected in the gas phase. In comparison with Ag and Cu selenides, lead selenide yields a much lower ratio of Se in the gas phase; roasting of PbSe in a mobile layer, where sintering of material would not happen, results in a higher volatilization of Se. The sulphation roasting using 98 % H_2SO_4 was investigated to determine the chemical stages of the process, volatilization of Se from PbSe, the effect of acid excess and the roasting temperature. The interaction of silver and

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The behavior of lead ...

copper selenides with concentrated H_2SO_4 on heating followed two stages: a) the formation of selenium sulphite $SeSO_3$ and b) the sulphuric acid oxidizes $SeSO_3$ to SeO_2 and SO_2. Reaction stages were confirmed by means of radioactive tracers using radioactive isotope Se-75. The authors note that the limiting stage of the process for distilling Se from PbSe, is not the formation of SeO_2 but its volatilization. A complete removal of SeO_2 into the gas phase requires the evaporation of the H_2SO_4, which involves an increase in temperature and time of roasting. The formation of $SeSO_3$ can be avoided by using a deficiency of H_2SO_4, i.e.

$$2PbSe + 6H_2SO_4 \longrightarrow 2PbSO_4 + SeO_2 + Se + 4SO_2 + 6H_2O \qquad (5)$$

and in this case the removal of selenium from PbSe is in the form of SeO_2 and elementor Se. The deficiency of H_2SO_4 could cause the following reaction to take place

$$PbSe + 2H_2SO_4 \longrightarrow PbSO_4 + Se + SO_2 + 2H_2O. \qquad (6)$$

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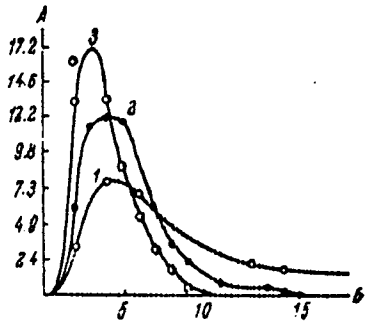
The behavior of lead ...

To clarify the situation, experiments were carried out at different temperatures and different stoichiometric concentrations of sulphuric acid, the results being given in tabulated form. The investigation into the rate of SeO_2 formation from PbSe and H_2SO_4 and for different time intervals and temperatures gave results interpolated in Fig. 3.

Fig. 3.
Legend: A - rate of SeO_2 formation (% per min); B - time (min); Temperature (^oC): 1 - 300, 2 - 350, 3 - 400.



Card 4/5

The behavior of lead ...

The maximum rate was found to obey

$$\ln V_{max} = -2.29 - \frac{2225}{T} \qquad (10)$$

and for the temperature range 300-400°C the plotted graph is a straight line. There are 3 tables, 4 figures, and 3 Soviet-bloc references.

SUBMITTED: November 18, 1960

GETSKIN, L.S.; SAVRAYEV, V.P.

Sulfatization of metallurgical dusts in an atmosphere of oxygen-enriched air. TSvet. met. 34 no.11:26-29 N '61. (MIRA 14:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh metallov.

(Fly ash) (Ore dressing)

S/080/61/034/011/003/020
D202/D301

AUTHORS: Getskin, L.S., and Savrayev, V.P.

TITLE: Sublimation and recovery of selenium and arsenic in the sulfation process of metallurgical dusts

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no 11, 1961, 2398 - 2403

TEXT: The authors investigated the effects of air current and of the time of heating on the recovery of As and Se from metallurgical dusts under usual conditions of dust sulfation, during which As and Se form volatile As_2O_3 and SeO_2. As starting material an industrial metallurgical dust from lead production was used, containing 51.1 % Pb, 13.6 % Zn, 0.24 % Se and 3.3 % As, the latter being present mostly as lead and zinc arsenates and partly as arsenic sulfide, Se- mostly as lead and zinc selemides and partly in the elemental form. Their recovery was carried out on a laboratory installation, consisting of a granulator, a reactor with a "constant boiling layer" and a series of dust catchers. During the sulfation pro-

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cess air was blown through the granule layer. The starting material was granulated to 2- 3 mm size, concentrated H_2SO_4 being used for granulation and subsequent sulfation at 350°C; for each experiment 1 kg of granules was used, the heating time being 1 hour and the preheated air current varying from 2.75 to 11 nm^3/kg of granules, some experiments without air current being carried out as well. The authors give full details of the equipment used, as well as the obtained results. It is seen that the recovery of Se and As fully depends on the volume of blown air and the time of heating. Without any air current, after heating for 1 hour, the amount of residual content of Se in the granules was equal to 61.2 % of that initially present, and that of As to 44.8 %. With the increase of blown air volume from 2.75 to 11 nm^3/kg of granules, the distilled off amounts of Se and As steadily increased, reacting at 5.5 nm^3/kg 78 % and at 11 nm^3/kg 85 % of the initially present for selenium and 72% and 80 % respectively for arsenic. The air supply of 5.5 nm^3/kg, by which the granules are fluidized is practically sufficient for the recovery of Se and As; for a twofold increase of air supply the yield increased only slightly (7 and 8 % respectively). The above

experiments prove, in the authors' opinion that the use of a furnace with a fluidized layer is the most suitable method for recovery of Se and As. Collection of these elements from the sulfation gases was more complex; the authors used for this purpose two systems of dust-catchers: one consisting of a dry cyclone, a scrubber and a bubbling-foam apparatus, the second - the same equipment with an added wet electrostatic filter. The total recovery of Se in the first equipment amounted to 63 % and that of As to 67 %. With the use of the second, the average total recovery equalled 92 % (89 - 96 %) and 95 % (91 - 98 %) respectively, the yield variations in particular experiments being caused by variations of the voltage potential on the electrostatic filter. Better results were obtained with higher voltages. There are 2 figures, 1 table and 2 Soviet-bloc references.

SUBMITTED: January 12, 1961

Card 3/3

S/080/61/034/012/003/017
D202/D305

AUTHORS: Getskin, L.S., Yatsuk, V.V., and Savrayev, V.P.

TITLE: The recovery of elemental selenium and of selenium dioxide from gases by a condensation method

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 12, 1961, 2609 - 2613

TEXT: The factors investigated were: Temperature, gas flow and the concentration of the above susbstances in the gaseous phase. Experiments were carried out on a laboratory scale. ^{75}Se was used as an indicator in both cases, the activity of specimens being measured on radiometer B-2 (B-2) with an MS-7 (MS-7) counter. The specific radioactivity of the tested selenium samples was 11800 imp/min. g. and that of SeO_2 varied between 14200 and 596000 imp/min.g. Experiments with Se were carried out in a current of N_2 and those with SeO_2 in purified, dry air. The flow velocities were 0.7, 0.33 and 0.08 m/sec, which are similar to those used in industry. The results concerning the effects of flow velocity and of the tempera-

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ture are given in full. It is shown that at gas velocities of 0.7 m/sec (starting Se concentration 5 g/nm^3), 0.33 m/sec (starting Se concentration 11 g/nm^3) and 0.08 m/sec (starting Se concentration 40 g/nm^3) the amounts of unrecovered Se were 3.6, 1.7 and 1.0 % respectively. With increased current velocities the zone of almost full condensation was shifted from about 200°C for 0.08 and 0.33 m/sec towards a lower temperature of 150°C for 0.7 m/sec. The experiments with SeO_2 condensation were carried out under the same conditions; the results obtained have proved that SeO_2 requires a much lower temperature for its full recovery: 100°C for gas velocities of 0.08 and 0.33 m/sec and about 80°C for that of 0.7 m/sec. when its concentration is the same as in the case of Se. In order to check the effect of the starting concentration another series of tests was carried out with 0.1 g/nm^3 of SeO_2 at an air current of 0.7 m/sec. It was found that at 68-50°C 97.2 % of SeO_2 was condensed. For a full recovery of SeO_2, therefore the condensation temperature has to be about 100°C lower than that for metallic selenium. There are 3 figures, 2 tables and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language

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Card 2/3

BR

S/078/62/007/004/001/016
B110/B101

AUTHORS: Margulis, Ye. V., Getskin, L. S., Mil'skaya, N. S.

TITLE: Pressure of the saturated SeO_2 vapor

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 4, 1962, 729-731

TEXT: The pressure of the saturated SeO_2 vapor was measured in the range from 130 to 231.5°C by means of the saturation method for the purpose of checking the divergent literature data (Fig. 2). Dried SeO_2 is present in the vertical, U-shaped saturator (a) which is kept at constant temperature in a thermostate filled with a corresponding glycerin + water mixture. The temperature of the SeO_2 charge controlled by means of a Pt-resistance thermometer was kept constant within ±0.5°C. The condensing tube connected with the saturator via a mercury seal was cooled by melting ice. The water-vapor saturated carrier gas (O_2 for preventing SeO_2 reduction) escaping from the condensing tube, reaches a gasometer which keeps the gas pressure constant with barometric pressure with an accuracy of 0.076 mm Hg. In the condensate of the SeO_2 vapor dissolved in water, Se was colorimetrically determined, and the pressure of the saturated SeO_2 vapor

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Pressure of the saturated ...

was calculated according to: $p_s = P_s/\left[M \cdot V(P_w - p_w)/gTR + 1\right] = P_s/K$, where p_s is the pressure of the saturated vapor of the substance at the temperature of the saturator in mm Hg; P_s is the total pressure in the saturator in mm Hg, M is the molecular weight of the evaporated substance, V is the volume of the gas passed through the saturator in liter, P_w is the total pressure in the water gasometer, in mm Hg, T is the gas temperature in the water gasometer, in °K, R is the gas constant: 62.361 mm Hg/°K, and g is the weight in g of the substance evaporated during the experiment. Between 20 and 300°C no polymorphous conversion was detected for SeO_2. The pressure of the saturated SeO_2 vapor was 0.017 mm Hg at 130°C and 8.13 mm Hg at 231.5°C. The following temperature dependence of the saturated-vapor pressure was ascertained: $\log p = 10.7265 - 4936.2/T$. The heat of evaporation of SeO_2 is $\Delta H = 22.583$ kcal/mole. There are 2 figures and 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy gornometallurgicheskiy institut tsvetnykh metallov (All-Union Mining and Metallurgical Scientific Research Institute of Nonferrous Metals)

Pressure of the saturated ...

SUBMITTED: May 8, 1961

Fig. 2: Scheme of the apparatus for the determination of the vapor pressure of SeO_2.
Legend: (1) oxygen cylinder; (2) and (3) H_2SO_4 bottles; (6) wash bottle with KOH; (4) and (7) manometers; (5) rheometer; (8) saturator with SeO_2; (9) thermostat; (10) reflux condenser; (11) Pt resistance thermometer; (12) potentiometer; (13) Hg seal; (14) condensing tube; (15) bubbler bottle with water; (16) water gasometer; (17) valve installation for maintaining barometric pressure in the gasometer; (18) and (19) thermometers.

Card 3/4

GETSKIN, L.S.; MARGULIS, Ye.V.; REMIZOV, Yu.S.

Interaction of sulfur dioxide with gaseous and solid selenium oxide. Zhur.prikl.khim. 35 no.6:1192-1198 Je '62. (MIRA 15:7)
(Sulfur dioxide) (Selenium oxide)

GETSKIN, L.S.; YATSUK, V.V.

Relative reaction rates of some selenides and elementary selenium with sulfuric acid. Zhur.prikl.khim. 35 no.11:2546-2548 N '62. (MIRA 15:12)
(Selenides) (Selenium) (Sulfuric acid)
(Chemical reaction, Rate of)

GETSKIN, L.S.; MARGULIS, Ye.V.

Behavior of selenium in lead refining. TSvet. met. 36 no.7:56-60 Jl '63. (MIRA 16:8)
(Lead—Metallurgy) (Selenium)

ABDEYEV, Masgut Abdrakhmanovich, kand. tekhn. nauk; GRINSKIN, Lev Solomonovich, doktor tekhnicheskikh nauk; ZAPLAVNYY, Aleksey Yakovlevich, kand. ekon. nauk; KRUTIKOV, Petr Maksimovich, inzh.; LAKEDIK, Mark Moiseyevich, doktor tekhn. nauk; SMIRNOV, Vasiliy Ivanovich, akademik;

[Modern methods of treating lead and zinc ores and concentrates] Sovremennye sposoby pererabotki svintsovo-tsinkovykh rud i kontsentratov. [By] M.A.Abdeev i dr. Moskva, Metallurgiia, 1964. 285 p. (MIRA 17:10)

1. Akademiya nauk Kaz.SSR (for Smirnov).

GETSKIN, L.S.; LEKSIN, V.N.

Present day state of recovery of rare metals from lead and zinc plants. Tsvet. met. 37 no.6:51-54 Je '64. (MIRA 17:9)

GETSKIN, L.S.; MARGULIS, Ye.V.; MALETINA, Ye.D.

Combining the processes of drying and sulfuration of materials. TSvet. met. 37 no.11:50-52 N '64. (MIRA 18:4)

RISKIN, M.A., SHPIL'BERG, B.A., GETSKIN, I.L.

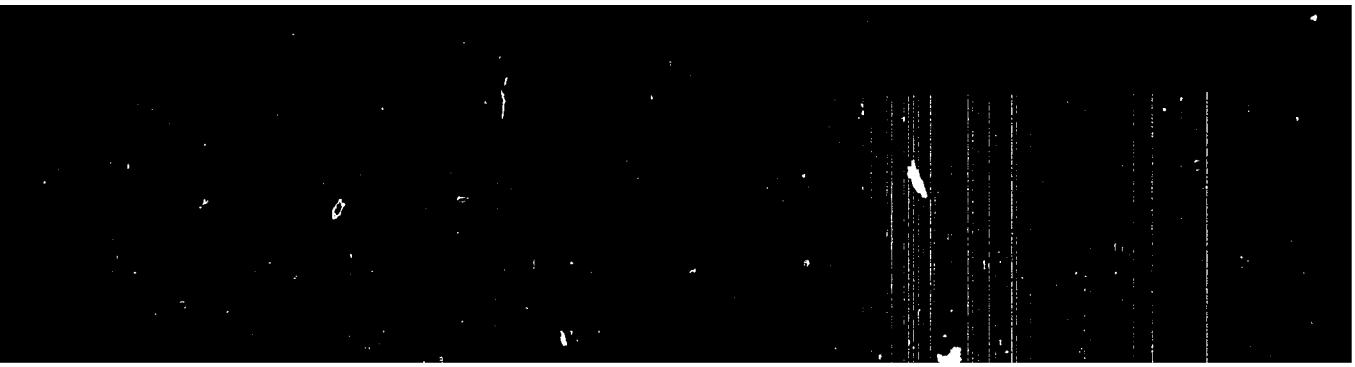
Pilot plant testing of a flow sheet for refining [illegible] ores at zinc plants. TSvet. met. [illegible] (MIRA [illegible])

KOLESNIKOV, N.A.; KOZ'MIN, Yu.A.; GETSKIN, L.S.

Calcining electrolytic copper slimes with soda in a fluidized bed.
TSvet. met. 38 no.4:62 Ap '65. (MIRA 18:5)

GETSKIN, L.S.; YATSUK, V.V.; PANTELEYEVA, A.F.

Hydrometallurgical method of producing lead using amines.
TSvet. met. 38 no.5:20-22 My '65. (MIRA 18:6)



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~~5(4)~~ SOV/54-59-4-16/22

AUTHORS: Morozova, M. P., Getskina, L. L.

TITLE: Enthalpy of Formation of WO_2 and $WO_{2.67}$

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 4, pp 128-131 (USSR)

ABSTRACT: As the opinions expressed in publications concerning the homogeneity region of the γ-phase of tungsten oxide compounds are contradictory (Ref 1 and Ya. I. Gerasimov, Ref 2) the authors investigated at 1200°C the equilibrium of tungsten oxides with mixtures of CO_2/CO, which were similar to the former as to composition. According to reference 6 an equilibrium exists in the reaction $2WO_3 + CO \rightleftarrows W_2O_5 + CO_2$. The apparatus used for the investigation is described in reference 7. Equilibrium was brought about at an extremely slow rate and in the direction of reduction only. Therefrom, and from isotherm (Fig 1) the region of the γ-phase was found to be limited by the compounds $WO_{2.63_4}$ to $WO_{2.76_5}$. By the aid of the transfer method (Ref 8) it was even more precisely limited by the aid of the reaction of tungsten oxide with a mixture of H_2O/H_2. Results concerning

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[redacted]

[illegible], I.F.; GNTSKIN, I.L.

Enthalpy of formation of WO_2 and $WO_{2.72}$. Zhur. VKHO [illegible], [illegible]:[illegible] (MIRA 1[illegible]:11)

(Tungsten oxide)

5(3) SOV/79-29-4-1/77

AUTHORS: Morozova, M. P., Getskina, L. L.

TITLE: Enthalpies of Formation of Niobium Oxides (Ental'pii obrazovaniya okislov niobiya)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1049-1052 (USSR)

ABSTRACT: From among the three compounds occurring in the system Nb-O only two, Nb_2O_5 and NbO_2, are thermochemically characterized, the formation enthalpy of NbO had not yet been determined by experiments (Ref 1). The formation enthalpies of niobium oxides were found by the authors by determination of the heats of combustion of metallic niobium, NbO, and NbO_2 in the precision vacuum calorimeter according to Magnus (Ref 2). All calorimetric determinations were carried out at 18°. The water equivalent of the calorimeter was established according to the heat of combustion of benzoic acid as calorimetric standard. The samples were produced by fusing together the mixtures of metallic niobium and Nb_2O_5 at 1400°. The metallic niobium had, according to the experimentator, the following composition in per cent: Nb 98.5; Ta 0.5; Ti 0.04; Fe 0.06; Si 0.04; Pb 0.15; C 0.12. Their total

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amount was 99.41%. The difference of 0.59% was assigned to the oxygen contained in the preparation. The calorimetric experiments were carried out at an oxygen pressure of 35 kg/cm^2. The niobium dioxide was oxidized to give Nb_2O_5 under these conditions. As to NbO and metallic niobium, they formed under these conditions a fused product which was not completely oxidized in the interior. A complete oxidation could not be achieved neither by changing the pressure nor by adding benzoic acid to these products. For this reason the niobium was burnt with Nb_2O_5 and the NbO with NbO_2. The results obtained on the combustion of metallic niobium are given in table 1. There, as well as in the other tables, the heat constants with all corrections are presented. The formation enthalpies of NbO, NbO_2, and Nb_2O_5 were accordingly: 108.8 ± 0.6 kcal, 199.3 ± 0.4 kcal, 236.3 ± 0.5 kcal (at 18°). There are 1 figure, 3 tables, and 8 references, 2 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: March 10, 1958

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Sofia, Zhivotnovudstvo, Vol 16, No 4, April 1962

1. "An Improved Type of Tent for Drying Alfalfa," Ivanka [illegible]EVA, Junior Scientific Collaborator at the regional livestock scientific research institute in Stara Zagora; pp 2-4.

2. "Our Experience with Preserving Green Alfalfa with Sodium Metabisulfide," Ivan DIMOV, Chairman of the "Road to Communism" Cooperative Farm in Isperikh; pp 5-8.

3. "For the Correct Distribution and Consolidation of Fodder Production in the Cooperative Farms," Zhivko STRASHILOV, Junior Scientific Collaborator, TsNIISS (Central Agricultural Scientific Research Institute); pp 9-14.

4. "The Influence of the Age of Hogs for Breeding Purposes on Some of Their Productive Characteristics," Ivan [illegible] (Senior Assistant, "G. Dimitrov" Agricultural Statistical Institute) and Vladimir [illegible] (Senior Zoologist, "G. Dimitrov" State Farm); pp 15-17.

5. "Combined Mechanization of the Poultry Pen in the Village of Malomirovo, Yambol Okrug," Stefan MILANOV, Chief Zoologist at the "V.I. Lenin" Cooperative Farm; pp 18-22.

6. "Many Paths Lead to Cheap Production," Stelka ILIEVA, Poultry Keeper at the cooperative farm in the village of Dropla (Tolbukhin okrug), holder of the order of the Red Banner of Labor, and people's representative, as told to G. GEORGIEV; pp 23-25.

7. "The Daily Productivity of Danubian and Draft Horses in the Cultivation of Agricultural Crops," Ivan YORDV, Junior Scientific Collaborator, Livestock Scientific Research Institute, Kostinbrod Kray; pp 26-29.

8. "Feeding as a Factor in Breeding," Professor Petko IVANOV; pp 30-34.

9. "Our Experience with Breed Improvement," Petur GETSKOVSKI, Director of the breed improvement station in Ayala Slatina; pp 35-39.

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GETSONOK, B.I.

Manufacture and weaving of raw silk with various elasticity strength. Izv.vys.ucheb.zav.; tekh.tekst.prom. no.5:86-93 '62. (MIRA 15:11)

1. Tashkentskiy tekstil'nyy institut.
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Reviewing the State Standard 5618-58 for raw silk. Standartizatsiia 26 no.10:36-39 O '62. (MIRA 15:10)

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ARIPOV, U.A.; KIBYN, G.A.; ABLYAYEV, Sh.A.; VASIL'YEVA, Ye.K.; FILIPPOV, A.N.; SLEPAKOVA, S.I.; GETSONOK, B.I.; ZAUROV, R.I.

Studying gamma-ray effects in natural silk. Izv. AN Uz. SSR. Ser. fiz.-mat.nauk no.4:5-11 '58. (MIRA 11:11)

1. Fiziko-tekhnicheskiy institut AN Uz. SSR.
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Effect of gamma rays on the properties and structure of natural silk. Dokl. AN Uz. SSR no.6:5-9 '58. (MIRA 11:9)

1.AN UzSSR (for Arifov). 2.Fiziko-tekhnicheskiy institut AN UzSSR, Institut yadernoy fiziki AN UzSSR i Uzbekskiy nauchno-issledovatel'skiy institut shelkovoy promyshlennosti.
(Gamma rays) (Silk)

GETSOV, A. G.

USSR/Chemistry - Oxidants

"Superperoxide of Hydrogen HO_2 as an Intermediate Compound," K. V. Astakhov, A. G. Getsov

"Dok Ak Nauk SSSR," Vol LXXXI, No 1, pp 43-45

Reviews German work on Ca tetroxide (CaO_4). Points out that no investigator has yet succeeded in isolating CaO_4 in a pure state: The content of CaO_4 obtained was 5-9%. Assumes that HO_2 forms as an intermediate product resulting from the interaction of CaO_4 or MnO_2 with acids: Direct formation of H_2O_2 and O_2 is unlikely. Refers to authors work on MnO_2.

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GETSOV, David Iosifovich; KRYUCHKOV, Stepan Alekseyevich; KRACHINO, V.V., redaktor; BIRYUKOVA, N.G., redaktor; ANDREYENKO, Z.D., redaktor izdatel'stva; LAVRENOVA, N.B., tekhnicheskiy redaktor

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GETOV, G. Il.

On the hypotensive effect of the new Bulgarian preparation Germelon (Preliminary report). Suvr. med. 14 no.4:21-26 '63.

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